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GLEASON CORP.

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Application No. 10/812,687 filed 03/30/2004
Amendment dated 11/14/2005
Reply to Advisory Action of 11/07/2005

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Amendments to the Drawings

None

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Remarks

The present invention is directed to a coolant delivery apparatus for a machine tool wherein the position of the coolant delivery apparatus comprising a plurality of coolant nozzles in fluid communication with a positionable coolant header is controllable such that coolant may be delivered to the machining zone of a tool even though the location of the machining zone of the tool may change such as during machining of a workpiece, or from one workpiece to another.

Applicant has previously amended claims 1 and 14 (and appropriate dependent claims) to recite the present invention comprises a "plurality" of coolant nozzles. Additionally, Applicant has previously incorporated the subject matter of claims 2 and 16 (now cancelled) into respective claims 1 and 14 to further define the claimed invention as including the plurality of nozzles in communication with a coolant header that is positionable along with the coolant nozzles.

With the present amendment, claims 1 and 14 have been further amended to indicate that the "...coolant nozzles are attached to and in fluid communication with a coolant header...".

The status of the claims is as follows:

1. Claims 1, 3-9, 11-15, 17 and 18 are rejected under 35 U.S.C. §102(e) as being clearly anticipated by Kalb (US 6,712,061).
2. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1, 3-9, 11-15, 17 and 18 are rejected as being clearly anticipated by Kalb (US 6,712,061). This rejection is respectfully traversed. From the Final Rejection the Examiner states "Note coolant nozzles 512, 513 attached to header 507. The coolant header is positionable, with both nozzles and the processing tool."

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Kalb teaches a wheeled trolley for carrying tools across a workpiece via a track and pulley/cable system. Figure 3 shows a tool support carriage 500 including coolant nozzles 512 and 513 which are supplied with cooling fluid via inlet 538 and threaded nipple 514 (column 9, lines 57-60). Also included in tool support carriage 500 is base 507 which provides an enclosure for fluid that might climb rotary shaft 509 especially when tool support carriage 500 is operated in an upside down position (column 10, lines 1-6).

There is no disclosure in Kalb that base 507 functions in any way as a coolant header as maintained by the Examiner. There is no teaching of coolant nozzles 512 and 513 or inlet 538 being in fluid communication with base 507. As a matter of fact, it is expressly disclosed that it is not desirable for cooling fluid to be present within base 507. Attention is directed to column 10, lines 8-10, wherein it is stated "A small weep hole, not illustrated, may be provided in base 507 to permit any slurry or cooling liquids to pass out of base 507." Such a statement clearly teaches completely away from any use of base 507 as a coolant header.

With the present amendment, claims 1 and 14 have been further amended to recite that the coolant nozzles are in "fluid" communication with a coolant header. Support for the amendment can be found in the specification at page 7, paragraph [0024], and in Figures 5-7. It is respectfully submitted that a fair reading of Kalb, even assuming for the sake of argument that base 507 functions to contain coolant, cannot provide a teaching of fluid communication between coolant nozzles 512 and 513 and the base 507. Such fluid communication simply does not exist nor is it reasonably suggested in Kalb.

Additionally, while coolant nozzles 512, 513 are "positionable" due to the repositioning of tool support carriage 500 along crescents 470, 480 (Figure 1), the position of the coolant nozzles 512, 513 relative to the area of contact between the workpiece and the contact zone of the tool does not change which is contrary to the recitation of claim 1, paragraph 3. The present invention provides the coolant

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nozzles and header being positionable to direct coolant to at least two different contact zones which is not possible with Kalb since the position of the coolant nozzles 512, 513 are fixed with respect to the grinding wheel and cannot be repositioned when a different contact zone of the grinding disc is utilized.

For example, as illustrated in Figures 4(a) and 4(b) of the present invention, grinding a workpiece at a first tool contact zone Z_2 and then at a subsequent tool contact zone Z_3 would bring about a repositioning of coolant nozzles 54 and coolant header 44 about the circumference of the grinding wheel (i.e. repositioning about the axis of the grinding wheel) from an initial position for providing coolant to contact zone Z_2 to a subsequent position for providing coolant to contact zone Z_3 .

In contrast, the nozzles of Kalb are fixed in their positional relationship to the grinding wheel (i.e. the nozzles 512, 513 of Kalb cannot be repositioned about the circumference of the grinding wheel 510). Looking at Figure 3 of Kalb, Applicant believes it can be seen that coolant nozzle 513 is fixed in a position (e.g. 3 o'clock) and nozzle 512 is fixed in a position (e.g. 9 o'clock) about the circumference of the grinding wheel 510. If grinding were to take place at a contact zone of wheel 510 proximate the 3 o'clock position then coolant from nozzle 513 would be directed to the contact zone. However, if grinding on wheel 510 would subsequently be shifted to another contact zone, such as the 12 o'clock position, coolant nozzles 513, 512 would not circumferentially follow to the new contact zone at 12 o'clock but instead would remain in their respective fixed 3 o'clock and 9 o'clock positions. The coolant nozzles of Kalb are incapable of repositioning about the circumference of the grinding wheel in response to a repositioning of the grinding wheel contact zone. Therefore, Kalb fails to anticipate or reasonably suggest changing the position of the coolant nozzles to direct coolant to respective changing tool contact zones.

For the reasons above, Kalb fails to anticipate the subject matter of claims 1, 3-9, 11-15, 17 and 18. The coolant nozzles are not circumferentially repositionable to direct coolant to different grinding wheel contact zones and there is no teaching of a coolant header in fluid communication with coolant nozzles. Given this, the

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Examiner is respectfully requested to reconsider and withdraw the rejection based on Kalb.

The Examiner's indication of allowable subject matter in claim 10 is noted with appreciation. However, given the discussion above, Applicant believes the present claims recite an invention that is novel and unobvious over the applied prior art.

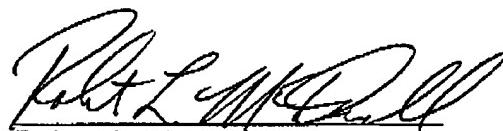
Conclusion

With the above remarks, Applicant believes the rejection based on Kalb has now been overcome. In this light, withdrawal of the rejection is respectfully requested and a prompt Notice of Allowance is earnestly solicited.

If the Examiner has any questions, she is cordially invited to telephone Applicant's Agent at (585) 461-8071. Should any additional fees be required in order that this paper, or any attachments hereto, be deemed a complete and timely response, the Commissioner is hereby authorized to charge Deposit Account No. 07-1425 for any such fees.

Respectfully submitted,

THE GLEASON WORKS



Robert L. McDowell
Reg. No. 34,080
Patent Agent

Tel.: 585-461-8071
Fax: 585-461-4092
E-mail: Rmcdowell@gleason.com

The Gleason Works
1000 University Avenue
P.O. Box 22970
Rochester, New York 14692-2970